

# Health Hazards of Toxic Household Products

## Grades

4-5

## Subjects

Health

## Duration

20 – 30 minutes

## Materials

Copies of the Toxic Household Products Survey and the Health Hazards of Toxic Household Products fact sheet.

## Objectives

Students will be able to identify substances used in their home as toxic or non-toxic.

Students will learn to appreciate the potential health hazards of household chemicals.

## Set

Orally quiz students about why household cleaners are effective. What kinds of things are being cleansed? If students bring up germs, ask how the chemicals kill germs. Steer the conversation so that students understand that many household products are actually designed to kill things (bacteria, insects). That means these substances are toxic. Other household products, such as air fresheners or deodorant, may cause living things to become sick or die, even if that is not the intended purpose of the product.

## Instructional Input

Define **toxic substance** - any substance that is capable of harming a person if it enters the body in a large enough dose.

Make sure that the students understand the routes of human exposure to a toxic substance:

- **ingestion** - eating, drinking
- **inhalation** – breathing
- **absorption** - skin contact

Point out that a substance, while toxic, will not harm a person if they are not exposed to it.

Also, even if a person is exposed to a toxic substance, they may not become sick unless they are exposed to a sufficient quantity.

Toxic substances may have different health effects depending on the duration of the exposure:

**Acute** – less than 2 weeks

**Intermediate** - > 2 weeks but < 1 year

**Chronic** – 1 yr or more

Hand out the Toxic Household Products Survey. Explain to the students that this survey contains many common household products. Ask them to rate each as toxic or non-toxic (based on their opinion) and whether or not they use these products in their home.

Record the results of the students in a matrix on the board or an overhead. You may want to work in a percent or fraction lesson here, if appropriate. Discuss each product. Hand out the Health Hazards of Toxic Household Products fact sheet. Have students correct their answers.

### **Evaluation**

Discuss what should be done to reduce exposure to hazardous household chemicals.

1. Follow product directions
2. Safely store products where they are not accessible to children or pets
3. Provide adequate ventilation when using hazardous products
4. Find an non toxic alternative

### **Guided Practice**

Have the students pick an area of their home and inventory the household products and chemicals in that room. Determine whether or not they are toxic. How are they stored? Is there a non-toxic alternative?

### **Extended Practice**

Have the students discuss the results of their inventory with their parents. The students should then write a brief essay describing their parents' reactions, attitudes, and plan of action for dealing with toxic products in their house and garage.

### **Closure**

Have students share their essays and action plans with the class. Research alternative, non-toxic products.

### **Resources**

There are many helpful sites on the Internet which are designed to educate consumers about safe alternatives to popular household products. These sites list non-toxic alternatives for many cleaning supplies and pesticides.

The Idaho Department of Health and Welfare, Division of Health, Bureau of Environmental Health and Safety developed a brochure detailing healthy alternatives to common household products. A copy can be viewed, downloaded, and printed at [www.state.id.us/dhw/behs/index.htm](http://www.state.id.us/dhw/behs/index.htm).

# Toxic Household Products Survey

Name \_\_\_\_\_

Place an X in the blank beneath each product if it is used in your home.

Place an X in the blank beneath each product you think is toxic. Remember, something is toxic if it can harm you or make you sick. It does not have to be life threatening to be toxic!



## **Window cleaner**

\_\_\_\_\_ This product is used in our home.

\_\_\_\_\_ I think it is toxic.



## **Insect spray**

\_\_\_\_\_ This product is used in our home.

\_\_\_\_\_ I think it is toxic.



## **Air freshener / room deodorizer**

\_\_\_\_\_ These products are used in our home.

\_\_\_\_\_ I think they are toxic.



## **Laundry detergents**

\_\_\_\_\_ These products are used in our home.

\_\_\_\_\_ I think they are toxic.



## **Furniture Polish**

\_\_\_\_\_ This product is used in our home.

\_\_\_\_\_ I think it is toxic.



## **Floor cleaners**

\_\_\_\_\_ These products are used in our home.

\_\_\_\_\_ I think they are toxic.

## **Drain cleaners**

\_\_\_\_\_ These products are used in our home.

\_\_\_\_\_ I think they are toxic.

## Health Hazards of Toxic Household



## Products

| Product                                | Toxic Effects  |
|--|--|
| <b>Window cleaner</b>                  | Window cleaner can cause skin, eye, nose, throat, sinus, and lung irritation. It can even cause sores on the liver and kidneys.  |
| <b>Insect spray</b>                    | Insect spray (pesticide) can cause skin, eye, nose, throat, sinus, and lung irritation. It can also damage the heart, lungs, liver, kidneys, spleen, and central nervous system (brain and nerves).  |
| <b>Air freshener / room deodorizer</b> | Air fresheners and room deodorizers can cause skin, eye, nose, throat, sinus, and lung irritation. They may also cause nausea, headaches, nose bleeds, dizziness, and shortness of breath. They are even more toxic if they contain formaldehyde. Formaldehyde can cause cancer.   |
| <b>Laundry detergents</b>              | Laundry detergents can cause skin, eye, nose, throat, sinus, and lung irritation. They may also cause vomiting or coma if they are ingested (eating and drinking).   |
| <b>Furniture Polish</b>                | Furniture polish is usually flammable. Furniture polish can cause skin, eye, nose, throat, sinus, and lung irritation. If the polish contains mineral spirits or petroleum distillates, it may cause skin and lung cancer.   |
| <b>Floor cleaners</b>                  | Floor cleaners can cause skin, eye, nose, throat, sinus, and lung irritation. Floor cleaners can also cause sores on the kidneys and liver. Floor cleaners with petroleum solvents are flammable and have been linked to skin and lung cancer.   |
| <b>Drain cleaners</b>                  | Drain cleaners are usually caustic and or corrosive. That means they can eat through materials and skin. Drain cleaners cause skin, eye, nose, throat, sinus, and lung irritation. They can damage the kidneys, liver, digestive system, skin, and central nervous system. Drain cleaners are poisonous if swallowed and can cause severe tissue damage. |

To avoid the toxic effects of common household products:

- Follow product directions
- Wear gloves and other protective clothing
- Safely store products so they are inaccessible to children or pets
- Provide adequate ventilation when using toxic products
- Find a non toxic alternative
- Do not mix cleaning products together